

## **ABSTRACT**

The present method describes the use of thio-phosphate as a feed source for micro-organisms and multi-cellular organisms. This compound enters into nucleotide pools and ultimately into polymers of both RNA and DNA forming stable phosphorothioate internucleotide linkages. The method enables the microbial synthesis of both plasmid and phage DNA substituted with phosphorothioate. Furthermore, methods are described for the preparation of phosphorothioate oligo mixtures from recombinant phage DNA grown in modified media for use in antisense studies.